



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

SENT VIA EMAIL

REPLY TO THE ATTENTION OF:

September 10, 2010

Mr. Steve Quigley, P.E.
Principal-in-Charge/Project Manager
Conestoga-Rovers & Associates Ltd. (CRA)
651 Colby Crive
Waterloo, Ontario, Canada N2V 1C2

US EPA RECORDS CENTER REGION 5



RE: CRA's Summary of Proposed Alternative Approach for Completing the Streamlined Remedial Investigation/Feasibility Study (RI/FS) for the South Dayton Dump and Landfill (SDDL) Site, Moraine, Ohio

Dear Mr. Quigley:

The U.S. Environmental Protection Agency (EPA) has reviewed CRA's August 31, 2010, letter proposing an alternative approach for completing the streamlined RI/FS at the SDDL Site in Moraine, Ohio. We appreciate CRA's willingness and efforts to move the RI/FS process forward with this proposal and believe we can agree on major portions of the proposal. In particular, based on CRA's proposal, we believe the Agency can exercise additional flexibility concerning the scope of Operable Unit (OU) 1 and OU2.

At this time, we agree to your request to defer to OU2 the development and evaluation of remedial alternatives for additional areas of the Site. The purpose of this deferment is to allow CRA additional time to conduct a conventional (i.e., not streamlined) RI/FS for quantitative risk assessment purposes for these areas, consistent with the 2006 RI/FS Statement of Work. However, as discussed below, we unfortunately cannot agree to all of the conditions stated in your letter, but we believe we can find a reasonable solution.

The Site areas we agree CRA may defer from OU1 to OU2, and from the streamlined OU1 FS, are:

- Lots 4610 and 3252 (Barnett);
- Lots 4423 and 3753 (Jim City); and
- Lots 3274, 3275 and 5178 (Quarry Pond), except for the eastern part of the

northern Quarry Pond embankment that extends from Lot 5177 onto Lot 5178.

At this time, EPA requests that CRA submit the OU1 FS by Friday, September 24, 2010, and that it be revised to address EPA's July 7, 2010 comments (except as otherwise noted in this letter). During this time, EPA will continue to be available to answer any questions CRA has about EPA's OU1 FS comments; to provide CRA with additional direction as to how EPA's FS comments should be addressed in the OU1 FS Report; or to discuss any other issues that may arise.

As part of your August 31, 2010, letter proposal you included several conditions to the offer. We generally agree that the issues you raise are important and need to be addressed, and are willing to work with you to expeditiously address them. However, EPA cannot agree to several of these conditions because they amount to the pre-selection of a remedy. The purpose of the FS is to evaluate alternatives for cleanup options and not to select a final plan. Before a final plan can be selected, evaluation of the alternatives must be made against the nine criteria and then the proposed final plan submitted for public comment. Given this context, we would like to take this opportunity to respond to the specific additional issues CRA raised in its proposal. EPA's hope is that this response may foster a better understanding of these issues on the part of CRA, and alleviate some of CRA's concerns concerning the OU1 FS and OU2.

CRA Issue 1: On-Site Upper Aquifer Zone groundwater areas of concern will be addressed using in-situ remedies via interim remedial action (or similar), outside of the OU1 RD/RA process. Further remedial action may be required as determined during the OU2 RI/FS.

EPA Response to CRA Issue 1: EPA agrees with, and appreciates, CRA's willingness to address some areas of shallow groundwater contamination at the Site using in-situ remedies. EPA agrees these efforts may help reduce the mass of shallow groundwater contaminants; may help reduce these areas from acting as a source to deep groundwater contamination; and may obviate the need for long-term groundwater containment.

However, we think that it is reasonable to request that the OU1 FS evaluate at least two active remedial alternatives (i.e., engineered technologies), in addition to the no-action alternative, and any other alternatives CRA would like to evaluate, to prevent shallow groundwater contaminants, at a minimum, from migrating beyond the central-southeast boundary of the Site.

As discussed more fully in our July 7, 2010, OU1 FS comments, during the streamlined RI, CRA detected elevated levels of TCE and/or vinyl chloride in shallow groundwater in MW-210; north along Dryden Road to VAS-15; and west of MW-210 to approximately MW-203. TCE was also detected in off-Site shallow groundwater above Maximum Contaminant Levels (MCLs) in VAS-25 and MW-213-VAS, approximately 200 to 300 feet from MW-210 in the general southward downgradient direction of the Site. It was

also detected in soil gas at GP-09 at the Site boundary, 200 feet from a residence with a basement, 550 feet southwest of MW-210 and 350 feet south of MW-203. All this shows a wide area of groundwater that is impacted by Site contamination.

In our OU1 FS comments we were trying to communicate that there is significant flexibility in the potential remedial alternatives CRA could evaluate to contain shallow groundwater in this area of the Site (approximately 1,300 linear feet). These include a variety of chemical, physical or biological technologies. Again, EPA is only requesting that CRA evaluate these alternatives in the FS. EPA will not select a final remedy for shallow OU1 groundwater until all shallow groundwater alternatives, including the no-action alternative, are evaluated in conjunction with EPA's nine evaluation criteria, in the OU1 Record of Decision (ROD).

Also, as EPA has continuously emphasized throughout the streamlined OU1 RI/FS process, EPA is willing to consider additional data collected by CRA during the remedial design (RD), if not sooner, to support a change in EPA's Proposed Plan or ROD, or as the basis for a ROD Amendment or Explanation of Significant Difference (ESD).

CRA Issue 2: *EPA must agree that an active landfill gas (LFG) collection system will not be required based on investigation data and modeled results in the FS.*

EPA Response to Issue 2: We agree that any decision on the need for an active landfill gas collection system must be based on Site data available in the RI and/or FS. We based our request for the evaluation of at least one active LFG and soil vapor system for the Site on our understanding of the available data and Site conditions. Most importantly it was based on the fact that businesses are on top of the landfill and are currently at risk from being exposed to LFG and soil vapors, and will be at an even higher risk if the landfill is capped.

During CRA's streamlined RI, for example, TCE was detected at a maximum concentration of 56,000 ug/m³ in a shallow soil gas sample collected 50 feet from an occupied structure. Methane was also detected above the upper explosive limit of 15 percent in shallow soil gas near another on-Site structure. The methane concentration in this sample was 26 percent methane, by volume. See EPA's July 7, 2010, OU1 FS comments for a full discussion of soil gas contamination at the Site.

As explained in EPA's OU1 FS comments, we believe CRA did not collect sufficient data (e.g., systematic landfill gas sampling within 3 to 5 feet of the surface across the landfill, or subslab soil gas sampling at each on-Site structure, at multiple times of the year to evaluate any seasonal differences) to support modeling, and EPA did not approve the use of CRA's landfill gas sampling for modeling purposes (see Section 1.2.1 in the 2006 RI/FS SOW concerning modeling requirements). However, we are more than willing to work with you to develop a sampling plan that will adequately characterize the landfill gas issue.

The City of Moraine and others have expressed a very strong interest in keeping the

SDDL Site available for industrial use. As such, it is critical that any remedial action thoroughly protect potential receptors at the Site. This includes workers in buildings located on top of the landfill, as well as workers who may be exposed to vapors from VOC-contaminated shallow groundwater at the Site (e.g., the TCE concentration in groundwater in VAS-9 was 5,100 ug/L).

EPA agrees, however, that there is significant flexibility in the technologies that can be used to control LFG and soil vapors to protect current and future receptors at the Site. These may include, but are not limited to, passive venting, active venting, passive venting that can be easily converted to active venting, or a combination of technologies depending on current and potential land use (e.g., active venting in business areas; passive venting in other Site areas).

Again, the Agency cannot select a remedy for LFG and soil vapors until all potential alternatives to control LFG and soil vapor, including the no-action alternative, are evaluated in conjunction with EPA's nine evaluation criteria, in the OU1 Record of Decision (ROD). Also, as EPA has continuously emphasized throughout the streamlined OU1 RI/FS process, EPA is willing to consider additional data collected by CRA during the remedial design (RD), if not sooner, to support a change in EPA's Proposed Plan or ROD, or as the basis for a ROD Amendment or Explanation of Significant Difference (ESD) at the Site.

CRA Issue 3: *The asphalt cap evaluated in the OU1 FS will consist of a 4-inch thick layer of MatCon asphalt with appropriate sub-base. EPA must also agree on a variance or waiver to decrease the slope of the cap from 5 percent to 1 percent.*

EPA Response to Issue 3: EPA appreciates CRA's willingness to evaluate a MatCon asphalt capping alternative in the OU1 FS. However, any capping alternatives evaluated in the FS, including a 4-inch thick layer of MatCon asphalt, must meet or exceed the OEPA municipal solid waste capping ARARs over the long term. At this point CRA has not provided information showing that the solid waste capping requirements are not ARARs, or the basis of a waiver of the requirements, but we are open to evaluating this information as part of the FS process. HELP model results could be the basis for an equivalency waiver under the NCP. We believe this is likely to be the only justification available by which this waiver could be approved. EPA will not be able to evaluate the effectiveness and equivalency of a 4-inch thick layer of MatCon asphalt until this demonstration is provided.

The MatCon Innovated Technology Report also indicates there are additional requirements for MatCon cover applications. These include:

- 1 The subgrade to receive the MatCon cover must be firm and unyielding to support compaction of the MatCon asphalt during construction.
- 2 The subgrade to receive the MatCon cover must have slopes of less than 3:1 (height:volume) for the safe use of compacting and paving equipment during installation.

- 3 The subgrade to receive MatCon must have a slope of greater than 1.5 percent to facilitate drainage and minimize surface water ponding.
- 4 The subgrade must be constructed to a grading tolerance of plus or minus 0.5 inch.
- 5 Though heavy surface use on a MatCon cover is possible, heavy container stacking, extraordinarily heavy or repeated loads, sharp point source loading, misuse, or use of heavy tracked equipment might compromise its integrity. Such heavy surface uses must be accommodated through customized designs, formulations and construction methods. Site-specific operations and maintenance plans for each installation and the potential future surface uses will need to be prepared and reviewed by the MatCon company to confirm consistency with strict MatCon quality assurance procedures.

The OU1 FS must also discuss how these requirements will be addressed at the Site based on the current and expected uses of each property to be covered with a MatCon cap.

EPA agrees that a variance will be required in areas where the slope will be less than the 5 percent slope required by OEPA ARARs. The minimum slope standard of 5 percent in Ohio Administrative Code (OAC) rule 3745-27-08 is a design standard. However, due to existing Site characteristics (e.g., age and sub-grade topography), we agree that a 5 percent slope at the SDDL Site may not be practicable. EPA and OEPA agree that an appropriate slope variance can be accommodated at the Site; however, we do not have the information to determine whether a variance is appropriate at this time.

The grade of the landfill cap is directly related to potential slope stability and surface drainage considerations. The OU1 FS should explain how the various capping alternatives would be designed and constructed to accommodate the material being used, and to achieve and maintain positive drainage over the long-term. This may include the use of surface water control structures, such as ditches to control run-on and runoff, sedimentation pond(s), erosion control measures, and surface grading to achieve positive drainage and prevent water from ponding over areas where landfill materials are present. These surface water control structures, in conjunction with a stability analysis on the existing landfill materials, can then be used to form the basis for a variance to the minimum slope standard under OAC rule 3745-27-03(C) as part of the design process.

CRA Issue 4: EPA must agree to data quality objectives and the scope of the investigation required to assess the human health and ecological risks associated with the OU2 investigation, including landfill materials and soil on the Barnett and Jim City Salvage parcels, surface water and sediment in the Quarry Pond, and shallow groundwater, before CRA will submit the revised OU1 FS to EPA.

EPA Response to CRA Issue 4: EPA will work with CRA as expeditiously as possible on the data quality objectives and the scope of the OU2 investigation, following the

process and guidance for conducting a conventional RI/FS. This would include a quantitative human health risk assessment and baseline ecological risk assessment for these areas, and/or Site media, consistent with the 2006 RI/FS SOW. Since OU2 is separate from OU1, however, EPA does not agree that the OU1 FS process should be delayed any further, and requests that CRA proceed with the revised OU1 FS at this time.

EPA would like to caution CRA, however, that CRA is now proposing to characterize large areas of the Site that EPA proposed to evaluate as a presumptive remedy as a time and cost-saving measure. For quantitative risk assessment purposes this includes characterizing approximately 15 acres of heterogeneous landfill materials up to 35 feet thick in some areas, in the southern portion of the Site; and about 15 acres of surface water and sediment in the Quarry Pond, which is up to 35 feet deep in some areas, and the island in the Quarry Pond. A quantitative risk assessment will require CRA to address all media, all pathways, and all current and potential future receptors.

Shallow groundwater that is not being actively contained as part of an OU1 remedy, or that has not been previously fully characterized, will also need to be characterized around the perimeter of the landfill during RD, if not sooner. For the RD the work will need to determine the extent of a shallow groundwater containment system (if selected as part of the OU1 ROD), and/or to develop an appropriate monitoring network for long-term monitoring. This work would be in addition to any on-Site or off-Site work already required as part of OU2.

EPA understands that the additional work and investigation required to support a conventional RI/FS and a quantitative human health and ecological risk assessment, can become very costly. However, EPA is willing to allow CRA the additional time to conduct this work, since, through this work, CRA may be able to demonstrate that these areas of the Site and/or media do not pose a risk to human health and the environment, and would not require remedial action.

Conclusion:

EPA appreciates CRA's efforts in attempting to move the Site forward, and is trying to be as flexible as possible in the approach to addressing the SDDL Site. We look forward to working with CRA through the rest of the OU1 and OU2 process for the Site. As mentioned above, EPA requests that CRA submit the OU1 FS by Friday, September 24, 2010. The FS should incorporate the changes discussed in this letter as well as the Agency's July 7, 2010 comment letter.

During this time, EPA will continue to be available to answer any questions CRA has about EPA's OU1 FS comments; to provide CRA with additional direction as to how EPA's FS comments should be addressed in the OU1 FS Report; or to discuss any other issues that may arise.

If you have any questions or would like to discuss the Site further, please feel free to

contact me at 312-886-1843 or via email at cibulskis.karen@epa.gov. Legal questions should be directed to EPA attorney Tom Nash, at 312-886-0552, or via email at nash.thomas@epa.gov.

Sincerely,



Karen Cibulskis
Remedial Project Manager

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